177579

U U.S

THE
DOE RUN
COMPANY
SMELTING DIVISION

April 8, 1992

Mr. Brad Bradley
Remedial Project Manager
U.S. EPA Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: Granite City CERCLA Site

Dear Mr. Bradley:

As you know, we have been invited by local interests to informally review, as an option, whether it might be possible to recover the metal value from the Granite City slag pile by hydrdynamic separation and/or smelting in order to eliminate the waste pile from the city on completion. The hope was that it could also be done as economically as the option proposed.

The Doe Run Company is a lead, zinc, and copper mining company operating exclusively in the Southeast portion of Missouri. We also smelt lead ores at our Herculaneum lead smelter on the Mississippi, some 35 miles south of the St. Louis arch. We sell our copper and zinc concentrates to other smelters, much of our zinc material going to Sauget, Illinois. In 1991 we began a new lead recycling operation at the Buick Resource Recycling Facility, in the mining district near Boss, Missouri. The Buick facility operates under a broad range of storage and treatment permits. It has submitted a BIF precertification of compliance. The Herculaneum smelter has a Missouri Resource Recovery Permit that covers in part battery paste and K069 but has no storage permit. It has declared an exemption to Region VII under the BIF program and can therefore accept Appendix XI materials dicussed in the technical amendments to that rule which include wastes from secondary smelting operations and battery plants.

We have visited the Granite City site and have given the matter some consideration.

Alternative One

Alternative one is the basis for which we were originally invited to evaluate. It involves hauling the stockpile

881 MAIN ST., HERCULANEUM, MO 63048
TELEPHONE 314-933-8134

approximately 130 miles to the Buick smelter, processing the material through the hydrodynamic separation process to recover the paste from the contaminated hard rubber casings and recover the paste. Some higher lead level slags could perhaps be refurnaced with some recovery. The hard rubber casings would then have to be backhauled to someplace like PDC landfill as would the slag. Unfortunately, the non-lead material comprises 90 percent of the weight and volume of the original pile. The revenues would not begin to offset the haul and burial costs of the non-recoverable material let alone cover the costs of the treatment. I believe this is consistent with the findings of the remediation consultants report.

Alternative Two

The second alternative that we considered entails hauling the material to the Buick facility and bleeding it through the reverberatory furnace and/or feeding it through the blast furnace. In the blast furnace, the BTU content of the hard rubber would provide some of its own fuel source and the overall volume would be reduced in the neighborhood of 70-80% (the exact amount yet to be determined); the remainder would then be hauled to the PDC landfill.

Alternative Three

A third alternative, by far the least cost option of the three, and perhaps even economic, would entail shipping the material to the Herculaneum smelter south of St. Louis. The material would be bled into the blast furnace and/or sinter plant. The rate might be limited by the impurity levels encountered in the pile. Soils can also be incorporated into the primary smelting operation charge since a large portion of many soils is silica, iron, and calcium which are normal fluxes added to the process. The regulatory issues involved in taking the materials to Herculaneum would need to be considered in detail.

Hybrid Alternative

A final possibility would be to opt for a mixture of these and/or other alternatives. We also understand that there are some offsite materials that must be cleaned up but will not be returned to the Granite City pile. Those might also be considered for recycling through The Doe Run facilities.

I hope this input is helpful to you. We appreciate that the CERCLA decision making process is a complicated one and it may not be possible or desirable to consider any of these options at this time. However, it is fairly clear that the materials at the Granite City facility can be smelted in one or more of several different lead furnaces with some reduction of material and the recovery of lead.

The rate of processing and the process economics are yet to be determined. If there is any interest, we would be happy to discuss these concepts further and if appropriate consider some full scale pilot test work. We understand that we would also need to obtain Region VII approval as well.

Very truly yours,

Daniel L. Vornberg

cc: Greg Tarpoff